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U.S. DEPARTMENT OF COMMERCE NOAA, NATIONAL WEATHER SERVICE

MONTHLY REPORT OF RIVER AND FLOOD CONDITIONS

TO: NATIONAL WEATHER SERVICE (W/OH12x1)
HYDROMETEOROLOGICAL INFO CENTER
1325 EAST-WEST HIGHWAY, RM 7116
SILVER SPRING, MD 20910

HSA OFFICE: Marquette, MI

REPORT FOR (MONTH/YEAR):

December 2015

DATE: **January 11, 2015**

SIGNATURE:

Robin J. Turner, MIC

Justin Titus, Meteorologist

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (WSOM E-41).



An X inside this box indicates no flooding occurred within this Hydrologic Service Area.

December Flooding

No flooding was reported to the National Weather Service.

December Precipitation

An abnormal weather pattern impacted conditions across Upper Michigan through most of December. The pattern brought warm, moist air to the area, which resulted in well above normal to record temperatures and liquid precipitation amounts and well below normal snowfall amounts.

Below is a chart of some of the larger cities in the Upper Peninsula, with monthly precipitation in inches, the amount of inches above or below normal for the month and any applicable record high or low rank.

| Location | Precipitation | Above/Below | Rank | Snow | Above/Below | Rank |
|------------------|---------------|-------------|-----------------|---------|-------------|-----------------|
| WFO Marquette | 4.87 | 2.30 | 4 th | 18.9 | -23.9 | |
| Marquette City | 3.83 | 1.86 | 8 th | 5.6 | -19.7 | 5 th |
| Houghton Airport | 3.07 | 1.18 | | No Data | No Data | |
| Ironwood | 4.68 | 2.57 | 3 rd | 24.4 | -21.9 | |
| Iron Mountain | 4.05 | 2.50 | 1 st | 5.3 | -8.6 | |
| Manistique | 5.33 | 3.73 | 1 st | 4.0 | No Data | 8 th |
| Munising | 5.02 | 1.27 | 5 th | 5.5 | -35.7 | 1 st |
| Newberry | 4.10 | No Data | 4 th | 8.4 | No Data | |

Other monthly precipitation totals from coop observers:

| Location | Precipitation | Snow |
|---------------------------------|---------------|----------|
| | (inches) | (inches) |
| Ahmeek 1SW (Keweenaw County) | Missing | Missing |
| Amasa (Iron County) | 2.81 | 4.4 |
| Atlantic Mine (Houghton County) | 5.45 | 35.0 |
| Baraga 7NW (Baraga County) | 3.03 | 14.8 |
| Big Bay (Marquette County) | 5.02 | 14.4 |
| Chatham (Alger County) | 5.14 | 9.8 |
| Clarksburg (Marquette County) | 3.15 | 9.3 |
| Cooks (Schoolcraft County) | Missing | Missing |
| Copper Harbor (Keweenaw County) | Missing | Missing |
| Garden Corners (Delta County) | 5.59 | 5.8 |
| Gladstone (Delta County) | 5.24 | 6.4 |
| Greenland 6N (Ontonagon County) | 4.92 | 19.9 |
| Gwinn (Marquette County) | Missing | Missing |
| Harvey (Marquette County) | 3.00 | 5.6 |
| Herman (Baraga County) | Missing | Missing |
| Houghton (Houghton County) | Missing | Missing |
| Jacobsville (Houghton County) | 4.63 | 25.0 |
| Mohawk (Keweenaw County) | 5.12 | 13.7 |
| Menominee (Menominee County) | 3.29 | 6.0 |
| Norway (Dickinson County) | 4.39 | 5.6 |
| Paulding (Ontonagon County) | 3.76 | 10.9 |
| Stambaugh (Iron County) | 3.83 | 5.3 |

Drought Discussion

The December 24, 2015 release of the U.S. Drought Monitor indicated that drought conditions did not exist across Upper Michigan. For the latest drought status, please go to http://www.drought.gov.

December Temperatures

Below is a table of some of the larger cities in the Upper Peninsula, with average monthly temperature and number of degrees above or below normal for the month, and the rank of an all-time warmest or coldest month, where applicable.

| Location | Temperature | Above/Below | Rank |
|------------------|-------------|-------------|-----------------|
| | (degrees) | | |
| WFO Marquette | 28.9 | 10.4 | 1 st |
| Marquette City | 32.9 | 9.4 | 2^{nd} |
| Houghton Airport | 30.7 | 10.5 | 1^{st} |
| Ironwood | 27.7 | 11.1 | 4 th |
| Iron Mountain | 30.6 | 11.2 | 2 nd |
| Manistique | 33.2 | 9.9 | 1 st |
| Munising | 32.7 | 9.8 | 1 st |
| Newberry | 32.4 | 11.4 | 1 st |

December River Levels

According to the United States Geological Survey, Upper Michigan December average streamflow ranged from normal (25-75 percentile) to record high (for monthly values).

December Products Issued

- 31 Daily River and Lake Summary
- 31 Hydrologic Summary
- 1 Hydrologic Outlook